OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
CALIFORNIA HEALTH POLICY AND DATA ADVISORY COMMISSION
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Proposed
Minutes of Meeting
AB 524 TECHNICAL ADVISORY COMMITTEE
September 24, 2001

Commission Chairman, Jerry Royer, M.D., MBA called the meeting to order at 10:10 a.m., at the Hyatt Hotel in Sacramento, California.

Present:

Douglas Bagley
Robert Brook, M.D.
Marilyn Chow, RN, DnSc
Nancy Donaldson, RN, DnSC
Laura B. Gardner, M.D., MPH, Ph.D.
Maida Reavis Herbst, RHIA
Clark E. Kerr, CHPDAC Chair
Jerry Royer, M.D., MBA
Laurie Sobel
William S. Weil, M.D.

Absent:

David Hayes-Bautista, Ph.D.
Mark Hlatky, M.D.
Jeffrey Rideout, M.D.

Contractors:

R. Adams Dudley, MD, MBA
Patrick Romano, M.D., MPH

Staff Present: David M. Carlisle, M.D., Ph.D., Director, OSHPD; Loel Solomon, Ph.D., Health Policy and Planning Division, OSHPD Jacquelyn Paige, Director, Anne Mox, CHPDAC

Minutes were approved as distributed.

OSHPD Director's Report – Dr. David Carlisle:

- Dr. Carlisle introduced Loel Solomon, Ph.D., Director of Healthcare Quality and Analysis Division
- The Director explained that the New Vision Statement would provide equitable healthcare accessibility for California. Our goal is to provide information that will make accessing the healthcare system easier for consumers.
- We have two newly named divisions
    1. Healthcare Quality and Analysis Division, (formerly Health Policy and Planning Division), headed by Loel Solomon
    2. Health Care Workforce and Community Development Division, (formerly the Primary Care Division), headed by Pueblo Rosales.
- The first Coronary Artery Bypass Graph Surgery Outcomes Report was released.

Update on Healthcare Quality and Analysis Division (HQA) – Loel Solomon:

- The Healthcare Quality and Analysis Division includes three centers;

1. Health Information Resource Center (HIRC) – disseminates data from licensed health facilities in California and acts as a clearinghouse for information on healthcare cost, quality and access.
2. Patient Safety Center – led by Andye Zach, is responsible for the Office's patient safety activities.
3. Outcomes Center – responsible for outcomes reporting, including the CHOP reports and activities related to the CABG program.

Other Reports:

- **AMI Study**: Two AMI reports based on 1994-96 and 1996-98 data have been produced and forwarded to the Health and Human Services Agency for reviewed. The 1994-96 report will only be posted to the Office's web site (www.oshpd.state.ca.us). The 1996-98 in-house report will be posted to the Office's web site as well as published in a four-volume set.
- **Community Acquired Pneumonia Study:** The pneumonia model has been validated and the results should be published with the first public report.
- **Maternal Outcomes Study**: Dr. Romano is the PI for this study and plans on producing a public report by the end of next year. One of the important components of the OB report will be a consumer-focused brochure.

Health Care Outcomes Center Strategic Plan - Loel Solomon, Ph.D.
The strategic plan focuses on how we can produce reports in an effective and efficacious fashion moving forward into the foreseeable future. After the TAC reviews the report it will go to the California Health Policy and Data Advisory Committee for discussion and then to the Governor's office for final acceptance.

(Chairman Royer's comments on the Strategic Plan: The TAC will serve in an advisory role as a committee, they will not vote on goals or the document in general.)

Purpose Statement: "Provide timely, reliable, actionable and fair information on healthcare quality that promotes accountability, continuously improving healthcare systems for all of California by empowering patients, purchasers, clinicians, and policymakers to make informed choices."

(Dr. Brook brought up the fact that hospitals aren't mentioned in this. Dr. Solomon agreed that we should expand that to include hospital administrators.)

Goal #1: Produce timely and accurate outcomes reports that strive to meet the schedule established in law.

- Will produce 9 reports, based on administrative data and one hospital-level CABG report every year, and one surgeon-level CABG report every two years.
- Cut the time lag between reporting year and the publication of an established quality report to 9 months.
- Maintain a report production process.
- Secure additional staffing resources
- Increase our capability to produce risk adjust outcomes.
- Create condition-specific clinical advisory panels.
- Expand the pool of available contractors.
- Supplement our contract management and oversight capacity.

Goal #2: Extend OSHPD's analysis of hospital outcomes beyond the measurement of condition/procedure-specific mortality.

- Establish a detailed workplan for the development and validation of a risk-adjusted mortality scale for the top 10-15 DRGs by mortality.
- Explore the feasibility of either adapting existing, commercially available severity adjustment software, or developing an in-house risk-adjustment model.
- Contract with researchers to develop scoring algorithms and to assess the psychometric properties of a multi-item mortality index.
- Assess the performance of a general risk adjustment model to produce condition-specific outcome reports.

Goal #3: Develop new measures, study methodologies and reporting programs that assess the quality of care provided in ambulatory settings, by individual physicians and by health plans.

- Assess the challenges and requirements of developing physician-level report cards.
- Collaborate with the Health Information Division on database development.
- Conduct preliminary health plan-level analyses of CHOP data.

Goal #4: Develop condition/procedure-specific report formats and dissemination strategies that selectively target appropriate audiences and maximize the salience of reports for decision making.

- Develop report formats and dissemination strategies subject to cognitive testing.
- Develop and field work-based interventions designed to educate consumers about potential uses of quality information.
- Develop and field a public information campaign to educate the public about the availability of outcome reports.
- Maximize use of the Internet.

Goal #5: Promote and facilitate the development and dissemination of knowledge on what hospitals can do to improve their outcomes.

- Process of care/QI
- Organizational structure

Goal #6: Assess disparities in care and outcomes across subgroups of California's population.

- Supplement outcomes reports with aggregate level analyses.
- Operationalize and incorporate a new selection criterion relating to evidence of disparities in utilization, care process and/or outcomes.

Phase Two of the planning process is due to be completed by January 15, 2002, and will include the following:

- Revision of goals and preliminary objectives
- Dissemination of the revised plan to external stakeholders for review and comment
- Development of action plans including project milestones, specific timeframes, staffing plans and project budgets
- Development of a feedback system to monitor the implementation of our strategic plan
- Securing legal analysis for action plans that could require changes in statute or regulation
- Identification of additional sources of funding

Reports from Contractors:

California Intensive Care Outcomes Project (CALICO) – R. Adams Dudley, MD

A data collection tool has been selected and we are comfortable that hospitals know how to collect the data. CALICO is different from most of the other projects; it involves primary data collection instead of using the Patient Discharge Database. So far the hospitals have been able to get Glasgow Com Scale scores on all the patients admitted to the ICU.

We have developed a software program for computerized data entry that will be improve data entry productivity and precision. We have also developed training materials and are conducting training sessions. After the participants successfully complete their training session, they are certified.

Currently there are eight hospitals that have provided data to us. In recruiting additional hospitals we have found that some facilities lack Internet access. Although we have provided these facilities with our tool, without Internet access they are unable to report their data to us via e-mail.

Other problems that CALICO is facing include competing requests for data collection efforts (for instance JCAHO) and nursing shortages (data collectors).

Dr. Dudley introduced Nisha Gupta, surgeon from Barnes Hospital, from the University of Washington and St. Louis, who now is here at UCSF and will be joining the CALICO team this year.

Nearly 125 hospitals are enrolled in CALNOC, of which 80 to 100 are currently submitting staffing data for critical care units. We would like to target these hospitals, emphasizing the benefit of the extra analytical edge CALICO would afford them regarding staffing effectiveness and its link to outcomes in critical care. The CALNOC Project is engaging voluntary hospitals in looking at the staffing side. Those involved in the PEP-C Project seem very interested in this.

Dr. Nancy Donaldson agreed to take this issue to the CALNOC Steering Committee. It was also noted that Dr. Carlisle is going to be the keynote speaker at CALNOC and will give them a pitch. It was decided that letters from key leaders encouraging hospitals to participate would be of great use.

Another possible way for hospitals to participate in CALICO is through Project IMPACT sponsored by the Society for Critical Care in Medicine. We could develop a CALICO module written into the project IMPACT software, but they have not done this yet and do not yet offer this option. They are now finishing their most recent software update and are going to consider adding the CALICO module, if the hospitals involved agree. By sharing database information we will go from eight to 15 hospitals at one time.

Apache is a private for-profit company that collects data and tells the hospitals how they are doing, but doesn't explain how the model works. There are at least eight Apache hospitals in California, but we are not sure if they will want to share their data at this time.

Hip Fracture Study – Patrick Romano, M.D., M.P.H.

The Hip Fracture Validation Study was designed as a two-stage stratified cluster sample of hip fracture hospitalizations at non-federal acute care hospitals in California. This is the same design used in previous CHOP validation studies.

The study looked at all the patients discharged with a principal diagnosis of hip fracture that underwent surgical repair in 1995 or 1996. The study included almost 39,000 hip fracture surgeries from 377 hospitals. Serial hospitalizations were linked and cases were assigned to the first hospital in which the surgery was performed. Patients with non-osteoporotic fractures, unusual conditions resulting in fractures, or multiple trauma were excluded from the study. We also excluded patients without social security numbers.

Building on work that was done several years ago by RAND at UCLA (Grace Carter), we estimated a multi-variate logistic regression model. Adjusting for the information

available from the discharge abstract (e.g. age, gender,) and admissions from long term care, comorbidities), the model estimates each patient's probability of death within 30 days. Ten co-morbidities that appeared to be key predictors of 30-day mortality after hip fracture were identified and included in the model.

Standard techniques were used for model building, and outlier hospitals were identified. Small volume hospitals were excluded since statistically they are much less likely to be labeled as outliers. Based on this, 14 of the better-than-expected hospitals, 9 worse-than-expected hospitals, and 30 hospitals from the intermediate strata were selected for the validation study. This was done using a technique called "sampling with probability proportional to size," after batching the hospitals according to their risk-adjusted mortality rate. The basic idea is to get a nice distribution of hospitals with different risk-adjusted mortality rates, including some high-volume hospitals in each mortality stratum. Only four hospitals declined to participate. We randomly sampled 390 patients from each of the three hospital sampling strata, including 13 from each of the 30 hospitals in the middle group. Among the outlier hospitals, we selected all of the deaths and a random sample of the survivors. We over sampled deaths in the non-outlier hospitals. The reason for this complex over-sampling is to make sure that we have enough deaths in the sample so that we understand something about why patients are dying and about what process failures may lead to death among hip fracture patients.

Three expert coders and two clinical abstractors were hired, tested, trained and monitored with five percent over-reading to ensure the accuracy of the data abstraction process. The expert coders were not allowed to see the discharge abstract that hospitals had originally submitted to the State, so it was a completely independent abstraction. We had regular meetings of the coding staff to review issues or questions that came up to make sure there was consistency in how our coders were approaching frequently encountered issues. Using these newly assigned ICD-9-CM codes, we estimated various measures of accuracy for each of the risk factors. In so doing, we weighted each case by the inverse of its sampling probability, and we used the standard methods for a complex survey analysis.

Of the 1,007 records that were submitted to us, there were six patients that didn't meet the criteria for entry into the study. In general, we found that about a quarter of our hip fractures had one or more omitted risk factors from among the ten comorbidities used in the 30-day mortality model. This proportion was almost exactly the same in the three groups of hospitals. We were looking for some evidence that the hospitals that appear to have low risk-adjusted mortality are reporting more comorbidities relative to the hospitals that appear to have high risk-adjusted mortality. If our classification of hospital performance is biased because of coding differences across hospitals, then we would expect that the hospitals that we thought had high risk-adjusted mortality would be under-reporting their risk factors. We looked at that individually by risk factor and we just didn't find much evidence of it. Statewide, about 16 percent of hip fractures had one or more risk factors that our coders could not confirm. Part of the reason for this involves poor physician documentation in the chart.

We also looked at clinical risk factors that we thought might be important predictors of mortality after hip fracture repair. As in prior validation studies, vital signs prove to be

key predictors. Tachycardia, on the other hand, is a non-specific indicator of stress. Patients who are tachycardic are often hypotensive. Often they have lost a lot of blood, and they may have underlying heart disease. Hypothermic patients are typically patients who are elderly and may have been down for some period of time before they were brought into the hospital. High BUN, reflects both dehydration and kidney failure. Hyperkalemia also reflects dehydration and general metabolic derangement due to underlying kidney disease or heart disease. Patients who were anemic prior to surgery were at higher risk, as were patients who came in with very high white blood cell counts.

It turns out that some patients have pneumonia or a urine infection, which makes them weak, leading to the fall. This is a higher risk scenario. Mental status changes; patients who had baseline impaired function, and patients admitted from SNFs or board and care, all have higher risk. Preoperative x-rays, fluid in the lungs, and signs of congestive heart failure are also associated with higher risk. Some of these variables are inter-correlated.

For high-mortality hospitals there is little difference in the risk-adjusted outcome rate using the original data versus the re-coded data. This also holds true when clinical information is added to the model. This is similar for the hospitals in the middle group. For some low-mortality hospitals however, there was a difference between the risk-adjusted mortality rates using the original data, re-coded data, and clinical data. There are a couple of hospitals in this group where the use of re-coded data dramatically lowered their risk-adjusted mortality rate, this is expressed in terms of a standardized mortality ratio, which is observed or expected deaths. The ratio drops from about 2.5 using the data the hospitals reported down to about 1.5 or perhaps even less.

We hope to see if there are major differences in practice style that may explain why some hospitals appear to have three times higher mortality than other hospitals. There didn't appear to be any difference in the promptness of surgical intervention, nor use of anesthesia. We did find a more timely use of pre-operative antibiotics in low-mortality hospitals however.

Thirty percent of hip fracture patients do not get a prophylactic dose of antibiotic within two hours of incision. At the high-mortality hospitals, this figure approaches 50 percent. The use of DVT prophylaxis to prevent blood clots is important, because such clots probably account for about a third of the deaths following hip fractures. Forty percent of patients at high-mortality hospitals received no DVT prophylaxis, versus about 30 percent at other hospitals. There is emerging data that the prophylactic modality should be continued after discharge, especially if the patient is discharged as most hip fractures patients today are, after just two or three days.

There appears to be no difference between patients that were given blood transfusions, were ambulated before they left the hospital, were provided with physical therapy, and those that weren't.

> (*The group realized that nursing care hours weren't mentioned. CALNOC was not in place at the time of the discharge that was sampled. There's*

obviously limited data (this is only in 49 hospitals) in the OSHPD financial disclosure data set.)

Concluded at 2:30 p.m.